

UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF MICHIGAN

Horizon Global Americas Inc.

Case No. 2:17-cv-11879

Plaintiff,

Judge Avern Cohn

Magistrate Stephanie Dawkins Davis

v.

**FIRST AMENDED COMPLAINT**

Curt Manufacturing, LLC

Demand for Jury Trial

Defendant.

---

David B. Cupar (OH 0071622)  
Matthew J. Cavanagh (OH 0079522)  
MCDONALD HOPKINS LLC  
600 Superior Avenue, East, Ste. 2100  
Cleveland, Ohio 44114  
t 216.348.5400 | f 216.348.5474  
[dcupar@mcdonaldhopkins.com](mailto:dcupar@mcdonaldhopkins.com)  
[mcavanagh@mcdonaldhopkins.com](mailto:mcavanagh@mcdonaldhopkins.com)

and

Timothy J. Lowe (P68669)  
MCDONALD HOPKINS LLC  
39533 Woodward Ave., Suite 318  
Bloomfield Hills, Michigan 48304  
t 248.646.5070 | f 248.646.5075  
[tlowe@mcdonaldhopkins.com](mailto:tlowe@mcdonaldhopkins.com)

*Attorneys for*  
*Horizon Global Americas Inc.*

---

## **First Amended Complaint**

For its first amended complaint against defendant Curt Manufacturing, LLC (“Curt”), plaintiff Horizon Global Americas Inc. (“Horizon”) states:

### **Summary of Case**

1. This is an action for damages and injunctive relief to remedy the infringement by Curt of U.S. Patent Nos. 9,522,583 (“the ‘583 patent”), 8,360,458 (“the ‘458 patent”), 8,215,658 (“the ‘658 patent”), 9,248,713 (“the ‘713 patent”), 9,592,863 (“the ‘863 patent”), 8,179,142 (“the ‘142 patent”), 6,068,352 (“the ‘352 patent”), and 6,012,780 (“the ‘780 patent”). Collectively, the ‘583, ‘458, ‘658, ‘713, ‘863, ‘142, ‘352, and ‘780 patents are the “Patents.”

2. The Patents are directed to equipment for the towing industry, including improved fifth wheel hitch devices, unique devices for securing trailer safety chains to towing vehicles, improved trailer signal converters, and improved trailer brake controllers.

### **The Parties**

3. Horizon is a Delaware corporation with a principal place of business in Michigan.

4. Curt is a Delaware limited liability company with a principal place of business in Wisconsin.

### **Jurisdiction and Venue**

5. This Court has subject matter jurisdiction over Horizon's patent infringement claims under 28 U.S.C. § 1331 and § 1338 because it arises under federal law.

6. This Court has personal jurisdiction over Curt on various grounds, including (without limitation) because it has offered to sell and, upon information and belief, has actually sold products infringing the Patents in Michigan; it has intentionally caused tortious harm to Horizon in Michigan resulting from its infringing activities, with knowledge that such harm would be sustained by Horizon in Michigan; upon information and belief, it has regularly solicited business in Michigan, engaged in a persistent course of conducting business in Michigan, and derived substantial revenue from goods sold in Michigan; and Curt appeared before this Court and asserted a counterclaim.

7. Venue is proper under 28 U.S.C. § 1400 because Curt has committed acts of infringement in this district, and it has a regular and established place of business in this district. Curt sells products in this district through online stores, including Amazon.com and etrailer.com, and through many brick-and-mortar dealers, installers, and retailers in this

district. Furthermore, Curt has a physical warehouse and engineering facility, staffed by Curt employees and engineers, in Wixom, Michigan.

### **Relevant Facts**

#### **I. Horizon's Legal Rights**

8. Since around 1950, Horizon and its predecessors and affiliates have continually designed, produced, manufactured, and marketed a wide array of towing and trailer hitch products and accessories for trailer equipment manufacturers, wholesaler-distributors, and retail markets.

9. Under its popular *Reese*<sup>®</sup>, *Tekonsha*<sup>®</sup>, and other brands, Horizon (and its predecessors) has been a market leader for towing products for decades.

10. The '583 patent issued on December 20, 2016.

11. The '458 patent issued on January 29, 2013.

12. The '658 patent issued on July 10, 2012.

13. The '713 patent issued on February 2, 2016.

14. The '863 patent issued on March 14, 2017.

15. The '142 patent issued on May 15, 2012.

16. The '352 patent issued on May 30, 2000.

17. The '780 patent issued on January 11, 2000.

18. The '583, '458, and '658 patents are directed to unique devices and apparatuses for securely and conveniently tying things (*e.g.*, safety chains) to towing vehicles.

19. The '713 patent is directed to unique devices that can be used to secure a safety chain in gooseneck hitch applications.

20. The '863 patent is directed to improved fifth wheel hitch devices.

21. The '142 patent is directed to improved trailer signal converters.

22. The '352 and '780 patents are directed to improved trailer brake controllers.

23. Horizon is the exclusive owner of the Patents.

## **II. Curt's Infringement of the Patents**

24. Curt is making, importing, using, selling, and/or offering to sell products in the United States that: (a) are covered by one or more claims of the '583, '458, and '658 patents, including, without limitation, the Curt OEM-compatible gooseneck safety chain anchors (part nos. 60617, 60608, 60691, 60618, and 60692 and OEM part number 84000862); (b) are covered by one or more claims of the '713 patent, including, without limitation, the Curt OEM-Style Gooseneck Hitch for Ram (part no. 60613); (c) are covered by one or more claims of the '863 patent, including, without limitation, the Curt

OEM-compatible and after-market Q-Series 5th Wheel Hitches and A-series 16K and 20K 5th Wheel Hitches (including part no. 16120 and 16026); (d) are covered by one or more claims of the '142 patent, including, without limitation, the OEM Curt Trailer Signal Converters used on FCA Jeep Renegade vehicles (MY2015 part no. 82215047, manufacturer part nos. 82215047AB and 82214685AC) and Curt after-market Trailer Signal Converters (part nos. 56200 and 56210); and (e) are covered by one or more claims of the '352 and '780 patents, including, without limitation the Curt Triflex brake control (part. no. 51140). Collectively, the infringing Curt products are the "Infringing Products."

25. Among its various methods of sale, Curt has been selling the Infringing Products through online stores, including, without limitation, Amazon.com and etrailer.com. Customers in Michigan and other states can order the Infringing Products from those online stores, which the stores will ship to any address in the United States, including in Michigan.

26. Curt's website also identifies numerous brick-and-mortar dealers, retailers, and installers in Michigan that sell the Infringing Products.

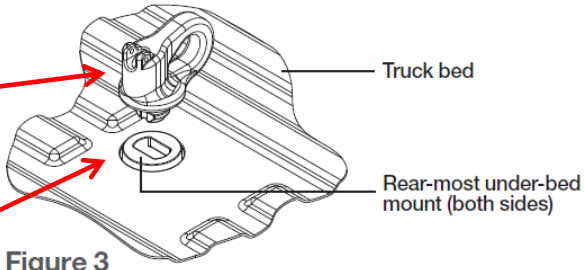
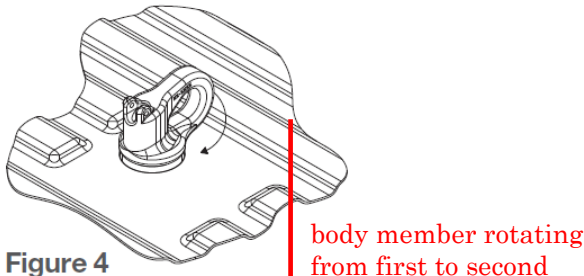
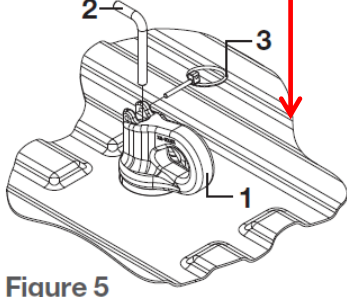
**Count One**  
*Infringement of the '583 patent*

27. Horizon incorporates by reference all allegations in all preceding paragraphs of this complaint as if fully rewritten herein.

28. The '583 patent is a continuation-in-part of the application that matured into the '458 patent.

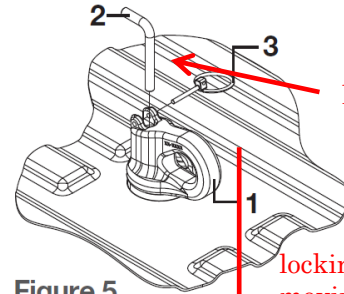
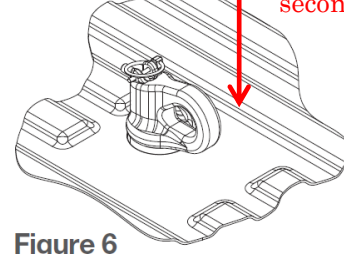

29. Curt has directly infringed, and continues to directly infringe, the '583 patent at least by selling, offering to sell, using, making and/or importing gooseneck safety chain anchors, including (without limitation) part nos. 60617, 60608, and 60691 and OEM part no. 84000862 (collectively, the "Infringing Anchors").

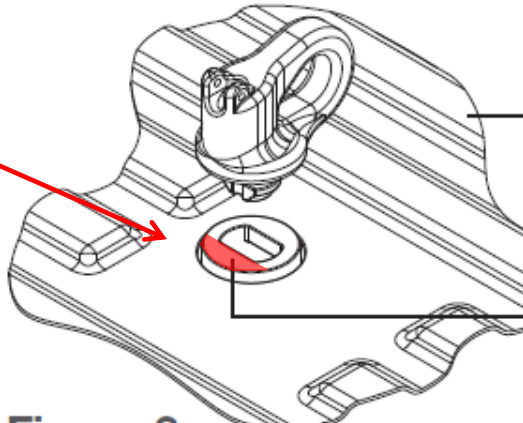
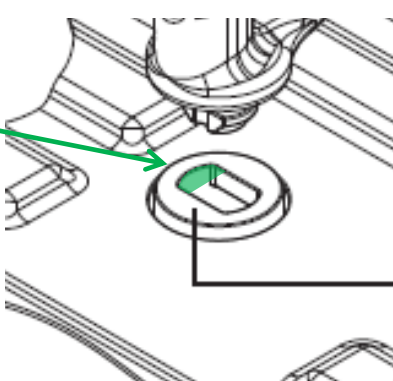
30. As an illustrative example shown below, part no. 60608 (which functions in materially the same way as the other Infringing Anchors) has each of the limitations in claim 1 of the '583 patent. The drawings in the chart are copied from Curt's Installation Instructions for the product (available at [https://assets.curtmfg.com/masterlibrary/60608/installsheet/CM\\_60608\\_INS.pdf](https://assets.curtmfg.com/masterlibrary/60608/installsheet/CM_60608_INS.pdf)), and the photo is of the product itself.

<b><i>Claim Limitation</i></b>	<b><i>Element on Infringing Product</i></b>
1. A tie down apparatus for securing an item, the tie down apparatus comprising:	Curt's website ( <a href="http://www.curtmfg.com/part/60608">www.curtmfg.com/part/60608</a> ) and the name of the product itself confirm that the anchor is for securing a gooseneck trailer safety chain. <sup>1</sup>
a body member rotatable about an axis between first and second rotational positions within a receiving member	<p>Curt's instructions show that the anchor is rotatable about an axis between two positions within a receiving member:</p>  <p>Figure 3</p>  <p>Figure 4</p>  <p>Figure 5</p>

<sup>1</sup> Horizon does not concede or allege that any preamble of any asserted claim is limiting.



Claim Limitation	Element on Infringing Product
<p>a locking member extending through the body member and being axially moveable relative to the body member between first and second axial positions, wherein the locking member in the second axial position prevents rotation of the body member from the second rotational position to the first rotational position and the locking member is prevented from moving from the first axial position to the second axial position until the body member is rotated from the first rotational position to the second rotational position.</p>	<div data-bbox="844 233 1380 588">  <p>locking member</p> </div> <div data-bbox="844 588 1380 840">  <p>locking member moving axially between first and second axial positions</p> </div> <p><b>Figure 5</b></p> <p><b>Figure 6</b></p> <p>The locking member, when in second axial position, prevents the body member from rotating within the receiving member:</p> <div data-bbox="909 1029 1331 1449">  </div> <p>The Curt anchor must be rotated into the second rotational position before the locking member can be moved into the second axial position, which is confirmed by Curt instructing customers to rotate the anchor 90° before fully inserting the locking member (a 10 mm pin).</p>

<i>Claim Limitation</i>	<i>Element on Infringing Product</i>
<p>red shaded region is part of receiving member that prevents pin from reaching second axial position until body member is rotated to second rotational position</p> <p>when pin moves into second axial position on body member (after Curt anchor is rotated into second rotational position), pin sits in green shaded region of receiving member and thereby prevents anchor from being rotated back to first rotational position.</p>	<p>This is further confirmed by the shape of the receiving member shown on the Curt instructions, which will not permit the pin to reach the second axial position while the body member is in the first rotational position:</p>  <p><b>Figure 3</b></p> 

31. Upon information and belief, Curt has had actual knowledge of the '583 patent and actual knowledge that its Infringing Anchors infringe that patent when they are manufactured, used, imported, sold, or offered for sale. Yet Curt has continued to sell the Infringing Anchors. Upon

information and belief, Curt knew about the '583 patent prior to this lawsuit at least because: (a) two of its patents (U.S. Patent Nos. 9,452,647 and 8,925,952) cite to Horizon patents (U.S. Patent No. 8,215,658 and 8,360,458) that are related to the '583 patent and which expressly claim priority to the same parent application (12/578,978) as the '583 patent; and (b) Curt and Horizon are head-to-head competitors in the hitch product market and towing industry and, upon information and belief, Curt has been monitoring Horizon's products, its marketing, and related patent activities, so that Curt was undoubtedly aware of Horizon's safety chain tie down product, which is marked with the '583 patent in accordance with 35 U.S.C. § 287(a), and given the December 20, 2016 issuance of the '583 patent that covers the products.

32. Each of the Infringing Anchor's only commercial use is as a safety chain tie down device.

33. Any use of the Infringing Anchors as a safety chain tie down device is an act of direct infringement of the '583 patent.

34. Because the sole intended use of the Infringing Anchors is an infringing use, the Infringing Anchors have no substantial non-infringing uses.

35. Curt has induced infringement of the '583 patent at least because, with knowledge of the '583 patent, it intentionally and actively induced end users of the Infringing Anchors (through instructions, videos, and otherwise) to use them in a manner that infringes the '583 patent with specific intent that they do so.

36. Curt has further induced infringement of the '583 patent at least by selling the Infringing Anchors to distributors, retailers, and other resellers with specific intent that they infringe the '583 patent by reselling the Infringing Anchors to others.

37. Curt has contributed to infringement of the '583 patent at least by selling the Infringing Anchors, which have no substantial use other than an infringing use as either chain tie down devices for towing applications.

38. Curt's infringements of the '583 patent were, and continue to be, willful and deliberate.

39. Horizon has been damaged by Curt's infringing activities, and it will continue to be irreparably injured unless the infringing activities are enjoined by this Court.

**Count Two**  
*Infringement of the '458 patent*

40. Horizon incorporates by reference all allegations in all preceding paragraphs of this complaint as if fully rewritten herein.

41. The '458 patent is a continuation of the application that matured into the '658 patent.

42. Curt's Infringing Anchors, described above, indirectly infringe the '458 patent.

43. Use of the Infringing Anchors with an underbed system having a rail, socket, and mid rail directly infringes at least claim 1 of the '458 patent.

44. Upon information and belief, Curt has had actual knowledge of the '458 patent and actual knowledge that its Infringing Anchors infringe that patent when they are manufactured, used, imported, sold, or offered for sale. Yet Curt has continued to sell the Infringing Anchors. Upon information and belief, Curt knew about the '458 patent prior to this lawsuit at least because: (a) two of its patents (U.S. Patent Nos. 9,452,647 and 8,925,952) cite to the '458 patent; and (b) Curt and Horizon are head-to-head competitors in the hitch product market and towing industry and, upon information and belief, Curt has been monitoring Horizon's products, its

marketing, and related patent activities, so that Curt was undoubtedly aware of Horizon's safety chain tie down product, which is marked with the '458 patent in accordance with 35 U.S.C. § 287(a), and given the January 29, 2013 issuance of the '458 patent that covers the products.

45. Each of the Infringing Anchor's only commercial use is as a safety chain tie down device.

46. Any use of the Infringing Anchors as a safety chain tie down device is an act of direct infringement of the '458 patent.

47. Because the sole intended use of the Infringing Anchors is an infringing use, the Infringing Anchors have no substantial non-infringing uses.

48. Curt has induced infringement of the '458 patent at least because, with knowledge of the '458 patent, it intentionally and actively induced end users of the Infringing Anchors (through instructions, videos, and otherwise) to use them in a manner that infringes the '458 patent with specific intent that they do so.

49. Curt has further induced infringement of the '458 patent at least by selling the Infringing Anchors to distributors, retailers, and other resellers

with specific intent that they infringe the '458 patent by reselling the Infringing Anchors to others.

50. Curt has contributed to infringement of the '458 patent at least by selling the Infringing Anchors, which have no substantial use other than an infringing use as either chain tie down devices for towing applications.

51. Curt's infringements of the '458 patent were, and continue to be, willful and deliberate.

52. Horizon has been damaged by Curt's infringing activities, and it will continue to be irreparably injured unless the infringing activities are enjoined by this Court.

**Count Three**  
*Infringement of the '658 patent*

53. Horizon incorporates by reference all allegations in all preceding paragraphs of this complaint as if fully rewritten herein.

54. Curt's Infringing Anchors, described above, indirectly infringe the '658 patent.

55. Use of the Infringing Anchors with a receiving member directly infringes at least claim 1 of the '658 patent.

56. Upon information and belief, Curt has had actual knowledge of the '658 patent and actual knowledge that its Infringing Anchors infringe that patent when they are manufactured, used, imported, sold, or offered for sale. Yet Curt has continued to sell the Infringing Anchors. Upon information and belief, Curt knew about the '658 patent prior to this lawsuit at least because: (a) two of its patents (U.S. Patent Nos. 9,452,647 and 8,925,952) cite to the '658 patent; and (b) Curt and Horizon are head-to-head competitors in the hitch product market and towing industry and, upon information and belief, Curt has been monitoring Horizon's products, its marketing, and related patent activities, so that Curt was undoubtedly aware of Horizon's safety chain tie down product, which is marked with the '658 patent in accordance with 35 U.S.C. § 287(a), and given the July 10, 2012 issuance of the '658 patent that covers the products.

57. Each of the Infringing Anchor's only commercial use is as a safety chain tie down device.

58. Any use of the Infringing Anchors as a safety chain tie down device is an act of direct infringement of the '658 patent.



59. Because the sole intended use of the Infringing Anchors is an infringing use, the Infringing Anchors have no substantial non-infringing uses.

60. Curt has induced infringement of the '658 patent at least because, with knowledge of the '658 patent, it intentionally and actively induced end users of the Infringing Anchors (through instructions, videos, and otherwise) to use them in a manner that infringes the '658 patent with specific intent that they do so.

61. Curt has further induced infringement of the '658 patent at least by selling the Infringing Anchors to distributors, retailers, and other resellers with specific intent that they infringe the '658 patent by reselling the Infringing Anchors to others.

62. Curt has contributed to infringement of the '658 patent at least by selling the Infringing Anchors, which have no substantial use other than an infringing use as either chain tie down devices for towing applications.

63. Curt's infringements of the '658 patent were, and continue to be, willful and deliberate.

64. Horizon has been damaged by Curt's infringing activities, and it will continue to be irreparably injured unless the infringing activities are enjoined by this Court.



**Count Four**  
*Infringement of the '713 patent*

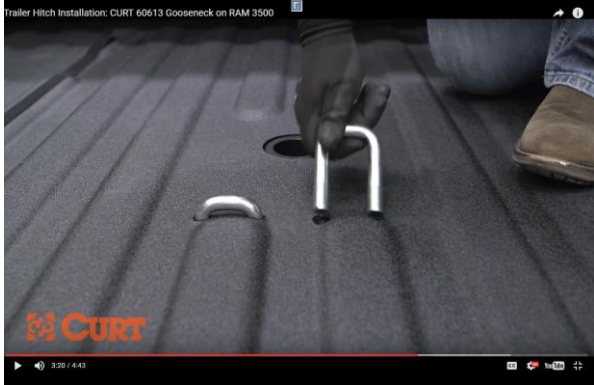

65. Horizon incorporates by reference all allegations in all preceding paragraphs of this complaint as if fully rewritten herein.

66. Curt has directly infringed, and continues to directly infringe, the '713 patent at least by selling, offering to sell, using, making and/or importing safety chain tie-downs, including (without limitation) the Curt OEM-Style Gooseneck Hitch for Ram, part no. 60613 (collectively, the "Infringing Tie-Downs").

67. As an illustrative example of Curt's infringement, part no. 60613 has each of the limitations in claim 1 of the '713 patent. The images in the chart below are screenshots from Curt's installation video for the product (available at <http://www.curtmfg.com/part/60613>).

<b><i>Claim Limitation</i></b>	<b><i>Element on Infringing Product</i></b>
1. A safety chain engaging device for a towing vehicle having a gooseneck hitch attached with transversely extending frame member of the towing vehicle, the safety chain engaging device comprising:	Curt's website ( <a href="http://www.curtmfg.com/part/60613">www.curtmfg.com/part/60613</a> ) confirms that the Infringing Tie-Downs are for securing a gooseneck trailer safety chain.

<i>Claim Limitation</i>	<i>Element on Infringing Product</i>
<p>a first bracket configured to be secured with the frame member of the towing vehicle and having at least a portion thereof configured to be disposed axially beneath the frame member upon securement of the first bracket with the frame member;</p> <p>frame member of the towing vehicle</p> <p>first bracket, secured to frame with bolts (shown) and nut plates (not shown)</p>	<p>Curt's installation video shows the product has a first bracket as claimed:</p> 
<p>a second bracket attached with the first bracket, the second bracket including a plate member spaced from the first bracket such that at least a portion of the frame member is configured to be positioned between the plate member and the first bracket; and</p> <p>second bracket</p>	<p>portion of frame member positioned between the plate member and the first bracket</p>  <p>plate member</p>

Claim Limitation	Element on Infringing Product
<p>at least one safety chain engaging member secured with the plate member, wherein the at least one safety chain engaging member is spaced from the frame member upon securement of the first bracket with the frame member.</p>	<p>Top view of safety chain engaging members:</p>  <p>Bottom view of safety chain engaging members (two u-bolts) secured with the plate member:</p>  <p>plate member</p> <p>both safety chain engaging members are spaced from the frame member</p> <p>frame member</p>

68. Upon information and belief, Curt has had actual knowledge of the '713 patent and actual knowledge that its Infringing Tie-Downs infringe that patent when they are manufactured, used, imported, sold, or offered for sale. Yet Curt has continued to sell the Infringing Tie-Downs. Upon information and belief, Curt knew about the '713 patent prior to this lawsuit at least because Curt and Horizon are head-to-head competitors in the hitch

product market and towing industry and, upon information and belief, Curt has been monitoring Horizon's products, its marketing, and related patent activities, so that Curt was undoubtedly aware of Horizon's safety chain tie down products, which are marked with the '713 patent in accordance with 35 U.S.C. § 287(a), and given the February 2, 2016 issuance of the '713 patent that covers the products.

69. Each of the Infringing Tie-Downs' only commercial use is as a safety chain tie down device.

70. Any use of the Infringing Tie-Downs as a safety chain tie down device is an act of direct infringement of the '713 patent.

71. Because the sole intended use of the Infringing Tie-Downs is an infringing use, the Infringing Tie-Downs have no substantial non-infringing uses.

72. Curt has induced infringement of the '713 patent at least because, with knowledge of the '713 patent, it intentionally and actively induced end users of the Infringing Tie-Downs (through instructions, videos, and otherwise) to use them in a manner that infringes the '713 patent with specific intent that they do so.

73. Curt has further induced infringement of the '713 patent by selling the Infringing Tie-Downs to distributors, retailers, and other resellers with specific intent that they infringe the '713 patent by reselling the Infringing Tie-Downs to others.

74. Curt has contributed to infringement of the '713 patent at least by selling the Infringing Tie-Downs, which have no substantial use other than an infringing use as chain tie down devices.

75. Curt's infringements of the '713 patent were, and continue to be, willful and deliberate.

76. Horizon has been damaged by Curt's infringing activities, and it will continue to be irreparably injured unless the infringing activities are enjoined by this Court.

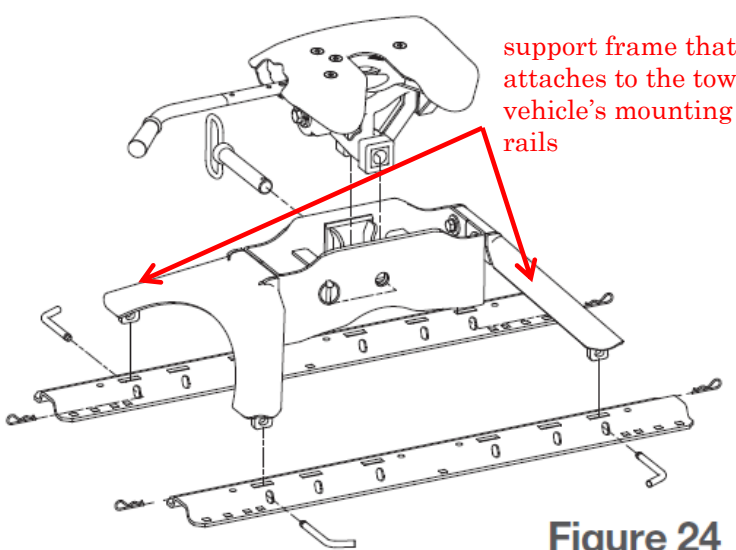
**Count Five**  
*Infringement of the '863 patent*

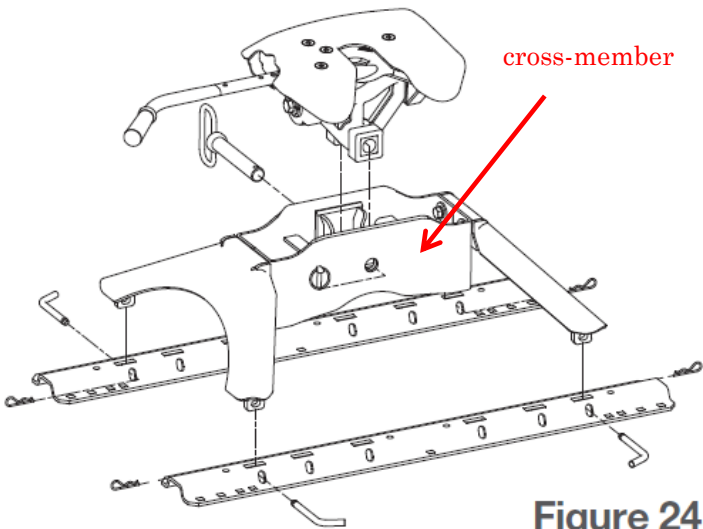
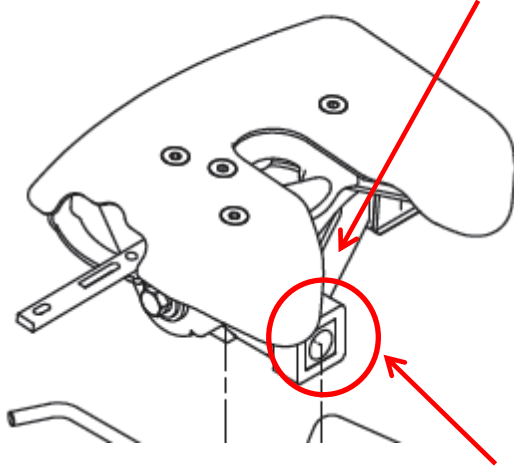
77. Horizon incorporates by reference all allegations in all preceding paragraphs of this complaint as if fully rewritten herein.

78. Curt has directly infringed, and continues to directly infringe, the '863 patent at least by selling, offering to sell, using, making and/or importing fifth wheel hitches with isolation systems including (without

limitation) the Q-Series and A-Series 16K and 20K 5th Wheel Hitches (collectively, the “Infringing Hitches”).

79. As an illustrative example, part no. 16120 has each of the limitations in claim 1 of the ‘863 patent. The drawings in the chart are copied from Curt’s Installation Instructions for the product (available at [https://assets.curtmfg.com/masterlibrary/16120/installsheet/CM\\_16120\\_INS.pdf](https://assets.curtmfg.com/masterlibrary/16120/installsheet/CM_16120_INS.pdf)), and the photo is of the product itself.

<i><b>Claim Limitation</b></i>	<i><b>Element on Infringing Product</b></i>
1. A fifth wheel hitch comprising:	Curt’s website ( <a href="http://www.curtmfg.com/part/16120">www.curtmfg.com/part/16120</a> ) and the name of the product itself confirm that the product is a fifth wheel hitch.
at least one support frame capable of engagement with a towing vehicle;	 <p>support frame that attaches to the tow vehicle's mounting rails</p> <p><b>Figure 24</b></p>

<i>Claim Limitation</i>	<i>Element on Infringing Product</i>
a cross-member attached to said at least one support frame;	 <p style="text-align: right;">cross-member</p> <p style="text-align: right;">Figure 24</p>
an isolation system operatively coupled with said cross-member, said isolation system comprising: a beam engaged with said cross-member about a first axis, wherein a cross-member isolator dampens longitudinal displacement of said beam generally along said first axis; and	 <p style="text-align: right;">a beam engaged with cross-member</p> <p style="text-align: right;">cross-member isolator</p>



<i>Claim Limitation</i>	<i>Element on Infringing Product</i>
a skid plate engaged with said beam about a second axis, where a wing isolator dampens radial displacement of said skid plate relative to said second axis.	<p>skid plate</p> <p>cross-member isolators</p> <p>beam</p> <p>wing isolators</p>

80. Upon information and belief, Curt has had actual knowledge of the '863 patent and actual knowledge that its Infringing Hitches infringe that patent when they are manufactured, used, imported, sold, or offered for sale. Yet Curt has continued to sell the Infringing Hitches. Upon information and belief, Curt knew about the '863 patent prior to this lawsuit at least because Curt and Horizon are head-to-head competitors in the hitch product market and towing industry and, upon information and belief, Curt has been monitoring Horizon's products, its marketing, and related patent activities, so that Curt was undoubtedly aware of Horizon's fifth wheel hitch products, which are marked with the '863 patent in accordance with 35 U.S.C. § 287(a),

and given the March 14, 2017 issuance of the '863 patent that covers the products.

81. Each of the Infringing Hitches' only commercial use is as a fifth wheel hitch device.

82. Any use of the Infringing Hitches as a fifth wheel hitch device is an act of direct infringement of the '863 patent.

83. Because the sole intended use of the Infringing Hitches is an infringing use, the Infringing Hitches have no substantial non-infringing uses.

84. Curt has induced infringement of the '863 patent at least because, with knowledge of the '863 patent, it intentionally and actively induced end users of the Infringing Hitches (through instructions, videos, and otherwise) to use them in a manner that infringes the '863 patent with specific intent that they do so.

85. Curt has further induced infringement of the '863 patent at least by selling the Infringing Hitches to distributors, retailers, and other resellers with specific intent that they infringe the '863 patent by reselling the Infringing Hitches to others.

86. Curt has contributed to infringement of the '863 patent at least by selling the Infringing Hitches, which have no substantial use other than an infringing use as a fifth wheel hitch device.

87. Curt's infringements of the '863 patent were, and continue to be, willful and deliberate.

88. Horizon has been damaged by Curt's infringing activities, and it will continue to be irreparably injured unless the infringing activities are enjoined by this Court.

**Count Six**  
*Infringement of the '142 patent*

89. Horizon incorporates by reference all allegations in all preceding paragraphs of this complaint as if fully rewritten herein.

90. Curt has directly infringed, and continues to directly infringe, the '142 patent at least by selling, offering to sell, using, making and/or importing trailer signal converters, including (without limitation) part nos. 56200 and 56210, as well as converters sold to OEMs having manufacturer part nos. 82215047AB and 82214685AC (collectively, the "Infringing Signal Converters").

91. An illustrative example shown below, part no. 56200 (which functions in materially the same way as the other Infringing Signal

Converters) has each of the limitations in claim 1 of the '142 patent. The drawings in the chart are copied from Curt's Installation instructions for the product (available at [https://assets.curtmfg.com/masterlibrary/56200/installsheet/CME\\_56200\\_INS.PDF](https://assets.curtmfg.com/masterlibrary/56200/installsheet/CME_56200_INS.PDF)).

<b><i>Claim Limitation</i></b>	<b><i>Element on Infringing Product</i></b>
1. A signal converter comprising:	Curt's website ( <a href="http://www.curtmfg.com/part/56200">http://www.curtmfg.com/part/56200</a> ) and the name of the product itself confirm that the product is a signal converter.
a power supply;	The Curt converter boxes include an onboard power supply that receives power from the vehicle battery.
a microcontroller connected to said power supply, said microcontroller configured to receive a plurality of input signals related to lamp lights of a first vehicle from said first vehicle, and output a plurality of output signals related to one or more vehicle lamp light loads of a second vehicle;	Curt's website ( <a href="http://www.curtmfg.com/part/56200">http://www.curtmfg.com/part/56200</a> ) describes the product as having a microcontroller as claimed. For example: "This CURT electrical converter is designed to convert an ST (stop/tail) pulse width modulation (PWM) system to a 2-wire system and provides a standard 4-way flat connector socket to plug in your trailer."
a current sensing device connected to said microcontroller to monitor current flow at said loads; and	Investigation and testing of the accused product shows the product has a current sensing device as claimed. On information and belief, the software code and schematics for the products should be produced by Curt in discovery and will further demonstrate this element is met.
wherein, said microcontroller is capable of reducing the duty cycle of one or more of said output signals in response to said current flow rising above a first predetermined threshold.	Investigation and testing of the accused product shows the product has a current sensing device as claimed. On information and belief, the software code and schematics for the products should be produced by Curt in discovery and will further demonstrate this element is met.

92. Upon information and belief, Curt has had actual knowledge of the '142 patent and actual knowledge that its Infringing Signal Converters infringe that patent when they are manufactured, used, imported, sold, or offered for sale. Yet Curt has continued to sell the Infringing Signal Converters. Upon information and belief, Curt knew about the '142 patent prior to the lawsuit at least because Curt and Horizon are head-to-head competitors in the hitch product market and towing industry and, upon information and belief, Curt has been monitoring Horizon's products, its marketing, and related patent activities, so that Curt was undoubtedly aware of Horizon's trailer signal converter product, and given the May 15, 2012 issuance of the '142 patent that covers the products.

93. Each of the Infringing Signal Converter's only commercial use is as a trailer signal converter.

94. Any use of the Infringing Signal Converters as a trailer signal converter is an act of direct infringement of the '142 patent.

95. Because the sole intended use of the Infringing Signal Converters is an infringing use, the Infringing Signal Converters have no substantial non-infringing uses.

96. Curt has induced infringement of the '142 patent at least because, with knowledge of the '142 patent, it intentionally and actively induced end users of the Infringing Signal Converters (through instructions, videos, and otherwise) to use them in a manner that infringes the '142 patent with specific intent that they do so.

97. Curt has further induced infringement of the '142 patent at least by selling the Infringing Signal Converters to distributors, retailers, and other resellers with specific intent that they infringe the '142 patent by reselling the Infringing Signal Converters to others.

98. Curt has contributed to infringement of the '142 patent at least by selling the Infringing Signal Converters, which have no substantial use other than an infringing use as trailer signal converters.

99. Curt's infringements of the '142 patent were, and continue to be, willful and deliberate.

100. Horizon has been damaged by Curt's infringing activities, and it will continue to be irreparable injured unless the infringing activities are enjoined by this Court.


**Count Seven**  
*Infringement of the '352 patent*

101. Horizon incorporates by reference all allegations in all preceding paragraphs of this complaint as if fully rewritten herein.

102. Curt has directly infringed, and continues to directly infringe, the ‘352 patent at least by selling, offering to sell, using, making and/or importing brake controllers, including (without limitation) the Curt Triflex brake control part no. 51140 (collectively, the “Infringing Brake Controllers”).

103. As an illustrative example shown below, part no. 51140 (which functions in materially the same way as the other Infringing Brake Controllers) has each of the limitations in claim 1 of the ‘352 patent. The drawings in the chart are copied from Curt’s Installation Instructions for the product (available at [https://assets.curtmfg.com/masterlibrary/51140/installsheet/CME\\_51140\\_INS.PDF](https://assets.curtmfg.com/masterlibrary/51140/installsheet/CME_51140_INS.PDF)).

<i><b>Claim Limitation</b></i>	<i><b>Element on Infringing Product</b></i>
1. A brake controller for controlling the brakes of a towed vehicle, said brake controller comprising:	Curt’s website ( <a href="http://www.curtmfg.com/part/51140">http://www.curtmfg.com/part/51140</a> ) and the name of the product itself confirm that the controller is for controlling the brakes of a towed vehicle.

<i><b>Claim Limitation</b></i>	<i><b>Element on Infringing Product</b></i>
an input circuit for generating a brake level signal representing the braking force to be applied by the towed vehicle's brakes;	<p>Curt's website confirms the product has an input circuit as claimed. For example: "This proportion-based brake control features a compact size, a digital display and the ability to manage up to eight brakes at a time. The feature that sets the TriFlex apart from all others is its triple-axis motion-sensing accelerometer. This integrated circuit component allows the TriFlex to detect every motion of your vehicle and trailer with exact precision and to then apply the perfect amount of braking power for every situation."</p> <p>Investigation and testing of the accused product also shows the product has an input circuit as claimed. On information and belief, the software code and schematics for the products should be produced by Curt in discovery and will further demonstrate this element is met.</p>
a display circuit including a plurality of indicator lights;	<p>Curt's website states and shows the product has a display circuit with a plurality of indicator lights. So does the instruction sheet.</p> 



Claim Limitation	Element on Infringing Product																
	<p><b>Digital Display</b></p> <p>The digital display shows the output setting when the control is activated. It is used to setup and monitor the brake control and can be used when trouble shooting.</p> <table border="1"> <tbody> <tr> <td> Blank display, does not illuminate when control is activated, check installation</td><td> Flashing, trailer disconnected, off after 60 seconds</td></tr> <tr> <td> Blank display, standby mode, illuminates when control is activated</td><td> Recalibration needed, unplug and replug trailer connector</td></tr> <tr> <td> Standby mode, no trailer connected</td><td> Calibrating</td></tr> <tr> <td> Standby mode, trailer connected</td><td> Overloaded output circuit, trailer brake system fault</td></tr> <tr> <td> 2.0. Brakes activated</td><td> Low voltage, tow vehicle system</td></tr> <tr> <td> 2.0. Flashing, output adjustment mode</td><td> Accelerometer error, powers brakes using default values</td></tr> <tr> <td> L.2. Flashing, sensitivity adjustment mode</td><td> Stoplight wire (red) shorted to ground</td></tr> <tr> <td> C.C. Trailer connected, checking calibration</td><td> Battery power just connected or engine cranking</td></tr> </tbody> </table> <p style="text-align: right;">PAGE 7</p>	Blank display, does not illuminate when control is activated, check installation	Flashing, trailer disconnected, off after 60 seconds	Blank display, standby mode, illuminates when control is activated	Recalibration needed, unplug and replug trailer connector	Standby mode, no trailer connected	Calibrating	Standby mode, trailer connected	Overloaded output circuit, trailer brake system fault	2.0. Brakes activated	Low voltage, tow vehicle system	2.0. Flashing, output adjustment mode	Accelerometer error, powers brakes using default values	L.2. Flashing, sensitivity adjustment mode	Stoplight wire (red) shorted to ground	C.C. Trailer connected, checking calibration	Battery power just connected or engine cranking
Blank display, does not illuminate when control is activated, check installation	Flashing, trailer disconnected, off after 60 seconds																
Blank display, standby mode, illuminates when control is activated	Recalibration needed, unplug and replug trailer connector																
Standby mode, no trailer connected	Calibrating																
Standby mode, trailer connected	Overloaded output circuit, trailer brake system fault																
2.0. Brakes activated	Low voltage, tow vehicle system																
2.0. Flashing, output adjustment mode	Accelerometer error, powers brakes using default values																
L.2. Flashing, sensitivity adjustment mode	Stoplight wire (red) shorted to ground																
C.C. Trailer connected, checking calibration	Battery power just connected or engine cranking																
<p>a power switching circuit and adapted for coupling to the brakes of the towed vehicle and to the power supply of the towing vehicle, for selectively supplying power from the towing vehicle power supply to the brakes of the towed vehicle in response to a switching control signal supplied to a control input terminal;</p>	<p>Curt's website and instruction sheet state and show the product has a power switching circuit as claimed. For example:</p> <p><b>WIRING DIAGRAM</b></p> <p>See also: “This proportion-based brake control features a compact size, a digital display and the ability to manage up to eight brakes at a time. The feature that sets the TriFlex apart from all others is its triple-axis motion-sensing accelerometer. This integrated circuit component allows the TriFlex to detect every motion of your vehicle and trailer with exact precision and to</p>																

<b><i>Claim Limitation</i></b>	<b><i>Element on Infringing Product</i></b>
	<p>then apply the perfect amount of braking power for every situation.”</p> <p>Investigation and testing of the accused product also shows the product has a power switching circuit as claimed. On information and belief, the software code and schematics for the products should be produced by Curt in discovery and will further demonstrate this element is met.</p>
<p>a current sensing circuit for sensing a level of braking current supplied to the brakes of the towed vehicle through said power switching circuit, and for generating a current level signal representing the sensed level of braking current; and</p>	<p>Curt’s website and instruction sheet state and show the product has a current switching circuit as claimed. For example, see the Wiring Diagram above.</p> <p>See also: “This proportion-based brake control features a compact size, a digital display and the ability to manage up to eight brakes at a time. The feature that sets the TriFlex apart from all others is its triple-axis motion-sensing accelerometer. This integrated circuit component allows the TriFlex to detect every motion of your vehicle and trailer with exact precision and to then apply the perfect amount of braking power for every situation.”</p> <p>Investigation and testing of the accused product also shows the product has a current switching circuit as claimed. On information and belief, the software code and schematics for the products should be produced by Curt in discovery and will further demonstrate this element is met.</p>

<i><b>Claim Limitation</b></i>	<i><b>Element on Infringing Product</b></i>
a microcontroller coupled to said input circuit, said display circuit, said current circuit, and to said power switching circuit, said microcontroller generating and supplying a switching control signal to said control input terminal of said power switching circuit thereby causing said power switching circuit to deliver a braking current to the brakes of the towed vehicle that is related to the brake level signal supplied to said microcontroller by said input circuit, said microcontroller illuminating one or more of said indicator lights of said display circuit to indicate a relative level of braking of the towed vehicle brakes and controlling one or more of said indicator lights to indicate that the towed vehicle brakes are or are not properly connected to said power switching circuit.	<p>Curt's website and instruction sheet state and show the product has a microcontroller as claimed. For example, see the Wiring Diagram and Digital Display above. See also: "This proportion-based brake control features a compact size, a digital display and the ability to manage up to eight brakes at a time. The feature that sets the TriFlex apart from all others is its triple-axis motion-sensing accelerometer. This integrated circuit component allows the TriFlex to detect every motion of your vehicle and trailer with exact precision and to then apply the perfect amount of braking power for every situation."</p> <p>Investigation and testing of the accused product also shows the product has a microcontroller as claimed. On information and belief, the software code and schematics for the products should be produced by Curt in discovery and will further demonstrate this element is met.</p>

104. Upon information and belief, Curt has had actual knowledge of the '352 patent and actual knowledge that its Infringing Brake Controllers infringe that patent when they are manufactured, used, imported, sold, or offered for sale. Yet Curt has continued to sell the Infringing Brake Controllers. Upon information and belief, Curt knew about the '352 patent prior to this lawsuit at least because Curt and Horizon are head-to-head

competitors in the hitch product market and towing industry and, upon information and belief, Curt has been monitoring Horizon's products, its marketing, and related patent activities, so that Curt was undoubtedly aware of Horizon's brake controller products, which are marked with the '352 patent in accordance with 35 U.S.C. § 287(a), and given the May 30, 2000 issuance of the '352 patent that covers the products.

105. Each of the Infringing Brake Controllers' only commercial use is a brake controller.

106. Any use of the Infringing Brake Controllers as a brake controller is an act of direct infringement of the '352 patent.

107. Because the sole intended use of the Infringing Brake Controllers is an infringing use, the Infringing Brake Controllers have no substantial non-infringing uses.

108. Curt has induced infringement of the '352 patent at least because, with knowledge of the '352 patent, it intentionally and actively induced end users of the Infringing Brake Controllers (through instructions, videos, and otherwise) to use them in a manner that infringes the '352 patent with specific intent that they do so.

109. Curt has further induced infringement of the '352 patent at least by selling the Infringing Brake Controllers to distributors, retailers, and other resellers with specific intent that they infringe the '352 patent by reselling the Infringing Brake Controllers to others.

110. Curt has contributed to infringement of the '352 patent at least by selling the Infringing Brake Controllers, which have no substantial use other than an infringing use as a brake controller.

111. Curt's infringements of the '352 patent were, and continue to be, willful and deliberate.

112. Horizon has been damaged by Curt's infringing activities, and it will continue to be irreparably injured unless the infringing activities are enjoined by this Court.

**Count Eight**  
*Infringement of the '780 patent*

113. Horizon incorporates by reference all allegations in all preceding paragraphs of this complaint as if fully rewritten herein.

114. Curt has directly infringed, and continues to directly infringe, the '780 patent at least by selling, offering to sell, using, making and/or importing the Infringing Brake Controllers described above.

115. As an illustrative example shown below, part no. 51140 (which functions in materially the same way as the other Infringing Brake Controllers) has each of the limitations in claim 1 of the '780 patent. The drawings in the chart are copied from Curt's Installation Instructions for the product (available at [https://assets.curtmfg.com/masterlibrary/51140/installsheet/CME\\_51140\\_INS.PDF](https://assets.curtmfg.com/masterlibrary/51140/installsheet/CME_51140_INS.PDF)).

<b><i>Claim Limitation</i></b>	<b><i>Element on Infringing Product</i></b>
1. A method for controlling brakes on a trailer being towed by a towing vehicle, comprising:	Curt's website ( <a href="http://www.curtmfg.com/part/51140">http://www.curtmfg.com/part/51140</a> ) and the name of the product itself confirm that the controller controls brakes on a trailer being towed by a towing vehicle.
sensing rate of deceleration of one of the towing vehicle and the trailer;	Curt's website states the product senses rate of deceleration as claimed. For example: "This proportion-based brake control features a compact size, a digital display and the ability to manage up to eight brakes at a time. The feature that sets the TriFlex apart from all others is its triple-axis motion-sensing accelerometer. This integrated circuit component allows the TriFlex to detect every motion of your vehicle and trailer with exact precision and to then apply the perfect amount of braking power for every situation. The TriFlex also automatically adjusts brake output when going up or down a hill and is compatible with anti-lock brakes and cruise control." Curt's instruction sheet also states, for example, "Automatically compensates for uphill and downhill road conditions."
sensing inclination of one of the towing vehicle and the trailer;	Curt's website and instruction sheet state the product senses inclination as claimed. For example, see above.
generating a variable deceleration signal as a function of said rate of deceleration and a variable inclination signal as a function of said sensed inclination;	Curt's website and instruction sheet state the product generates a variable deceleration signal as claimed. For example, see above.

<i><b>Claim Limitation</b></i>	<i><b>Element on Infringing Product</b></i>
sending a brake amperage output signal to control the brakes on the trailer; and	Curt's website and instruction sheet state the product sends a brake amperage output signal as claimed. For example, see above.
continuously proportioning said brake amperage output signal in accordance with both said deceleration and said inclination signals.	Curt's website and instruction sheet state the product continuously proportions as claimed. For example, see above.

116. Upon information and belief, Curt has had actual knowledge of the '780 patent and actual knowledge that its Infringing Brake Controllers infringe that patent when they are manufactured, used, imported, sold, or offered for sale. Yet Curt has continued to sell the Infringing Brake Controllers. Upon information and belief, Curt knew about the '780 patent prior to this lawsuit at least because Curt and Horizon are head-to-head competitors in the hitch product market and towing industry and, upon information and belief, Curt has been monitoring Horizon's products, its marketing, and related patent activities, so that Curt was undoubtedly aware of Horizon's brake controller products, which are marked with the '780 patent in accordance with 35 U.S.C. § 287(a), and given the January 11, 2000 issuance of the '780 patent that covers the products.

117. Each of the Infringing Brake Controllers' only commercial use is a brake controller.

118. Any use of the Infringing Brake Controllers as a brake controller is an act of direct infringement of the '780 patent.

119. Because the sole intended use of the Infringing Brake Controllers is an infringing use, the Infringing Brake Controllers have no substantial non-infringing uses.

120. Curt has induced infringement of the '780 patent at least because, with knowledge of the '780 patent, it intentionally and actively induced end users of the Infringing Brake Controllers (through instructions, videos, and otherwise) to use them in a manner that infringes the '780 patent with specific intent that they do so.

121. Curt has further induced infringement of the '780 patent at least by selling the Infringing Brake Controllers to distributors, retailers, and other resellers with specific intent that they infringe the '780 patent by reselling the Infringing Brake Controllers to others.

122. Curt has contributed to infringement of the '780 patent at least by selling the Infringing Brake Controllers, which have no substantial use other than an infringing use as a brake controller.

123. Curt's infringements of the '780 patent were, and continue to be, willful and deliberate.



124. Horizon has been damaged by Curt's infringing activities, and it will continue to be irreparably injured unless the infringing activities are enjoined by this Court.

**Prayer for Relief**

WHEREFORE, Horizon prays for judgment against Curt as follows:

(A) A finding that Curt has directly infringed one or more claims of each of the Patents under 35 U.S.C. § 271(a).

(B) A finding that Curt has induced infringement of one or more claims of each of the Patents under 35 U.S.C. § 271(b).

(C) A finding that Curt has contributed to the infringement of one or more claims of each of the Patents under 35 U.S.C. § 271(c).

(D) Preliminary and permanent injunctive relief enjoining Curt and its officers, directors, managers, employees, affiliates, agents, representatives, parents, subsidiaries, successors, assigns, those in privity with them, and all others aiding, abetting, or acting in concert or active participation therewith, from: (1) making, using, selling, offering to sell, or importing into the U.S. any device covered by any of the Patents; or (2) otherwise directly or indirectly infringing any of the Patents.

(E) Compensatory damages under 35 U.S.C. § 284.

(F) Treble damages under 35 U.S.C. § 284.

(G) An order that Curt accounts to Horizon for all sales, revenues, and profits derived from its infringing activities and that three times those profits be disgorged and paid to Horizon under 35 U.S.C. § 284.

(H) Attorneys' fees under 35 U.S.C. § 285.

(I) Pre-judgment and post-judgment interest.

(J) Costs of the action.

(K) Such other and further relief as allowed at law or in equity that the Court deems to be appropriate.

Dated: January 29, 2018

Timothy J. Lowe (P68669)  
MCDONALD HOPKINS LLC  
39533 Woodward Ave., Suite 318  
Bloomfield Hills, Michigan 48304  
t 248.646.5070 | f 248.646.5075  
[tlowe@mcdonaldhopkins.com](mailto:tlowe@mcdonaldhopkins.com)

s/ David B. Cupar  
David B. Cupar (OH 0071622)  
Matthew J. Cavanagh (OH 0079522)  
MCDONALD HOPKINS LLC  
600 Superior Avenue, East, Ste. 2100  
Cleveland, Ohio 44114  
t 216.348.5400 | f 216.348.5474  
[dcupar@mcdonaldhopkins.com](mailto:dcupar@mcdonaldhopkins.com)  
[mcavanagh@mcdonaldhopkins.com](mailto:mcavanagh@mcdonaldhopkins.com)

*Counsel for Horizon Global Americas Inc.*

**Jury Demand**

Plaintiff Horizon Global Americas Inc. hereby demands a jury trial for all issues so triable.

s/ David B. Cupar  
Counsel for  
Horizon Global Americas Inc.

**Certificate of Service**

The undersigned certifies the above paper was served on counsel for defendant via the Court's ECF system on January 29, 2018.

Jeffrey D. Shewchuk  
Shewchuk IP Services, LLC  
3356 Sherman Ct., Ste. 102  
Eagan, MN 55121  
651-331-9558 (direct)  
651-688-3348 (fax)  
jdshechuk@comcast.net

*Counsel for defendant  
Curt Manufacturing, LLC*

s/ David B. Cupar  
*One of the Attorneys for plaintiff  
Horizon Global Americas Inc.*